

=====

Sequence Listing was accepted.

If you need help call the Patent Electronic Business Center at (866)
217-9197 (toll free).

Reviewer: Durreshwar Anjum

Timestamp: [year=2008; month=11; day=14; hr=11; min=15; sec=12; ms=209;
]

=====

Application No: 10088952

Version No: 2.0

Input Set:

Output Set:

Started: 2008-10-20 18:06:18.505

Finished: 2008-10-20 18:06:20.810

Elapsed: 0 hr(s) 0 min(s) 2 sec(s) 305 ms

Total Warnings: 28

Total Errors: 0

No. of SeqIDs Defined: 28

Actual SeqID Count: 28

Error code	Error Description
W 213	Artificial or Unknown found in <213> in SEQ ID (1)
W 213	Artificial or Unknown found in <213> in SEQ ID (2)
W 213	Artificial or Unknown found in <213> in SEQ ID (3)
W 213	Artificial or Unknown found in <213> in SEQ ID (4)
W 213	Artificial or Unknown found in <213> in SEQ ID (5)
W 213	Artificial or Unknown found in <213> in SEQ ID (6)
W 213	Artificial or Unknown found in <213> in SEQ ID (7)
W 213	Artificial or Unknown found in <213> in SEQ ID (8)
W 213	Artificial or Unknown found in <213> in SEQ ID (9)
W 213	Artificial or Unknown found in <213> in SEQ ID (10)
W 213	Artificial or Unknown found in <213> in SEQ ID (11)
W 213	Artificial or Unknown found in <213> in SEQ ID (12)
W 213	Artificial or Unknown found in <213> in SEQ ID (13)
W 213	Artificial or Unknown found in <213> in SEQ ID (14)
W 213	Artificial or Unknown found in <213> in SEQ ID (15)
W 213	Artificial or Unknown found in <213> in SEQ ID (16)
W 213	Artificial or Unknown found in <213> in SEQ ID (17)
W 213	Artificial or Unknown found in <213> in SEQ ID (18)
W 213	Artificial or Unknown found in <213> in SEQ ID (19)
W 213	Artificial or Unknown found in <213> in SEQ ID (20)

Input Set:

Output Set:

Started: 2008-10-20 18:06:18.505
Finished: 2008-10-20 18:06:20.810
Elapsed: 0 hr(s) 0 min(s) 2 sec(s) 305 ms
Total Warnings: 28
Total Errors: 0
No. of SeqIDs Defined: 28
Actual SeqID Count: 28

Error code

Error Description

This error has occurred more than 20 times, will not be displayed

SEQUENCE LISTING

<110> Leppla, Stephen H.
Liu, Shi-Hui
Netzel-Arnett, Sarah
Hansen-Birkendal, Henning
Bugge, Thomas
The Government of the United States of America
as represented by the Secretary of the
Department of Health and Human Services

<120> Mutated Anthrax Toxin Protective Antigen Proteins That
Specifically Target Cells Containing High Amounts of
Cell-Surface Metalloproteinases or Plasminogen
Activator Receptors

<130> 015280-405100US

<140> 10088952
<141> 2002-03-22

<150> US 60/155,961
<151> 1999-09-24

<150> WO PCT/US00/26192
<151> 2000-09-22

<160> 28

<170> PatentIn Ver. 2.1

<210> 1
<211> 4
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: furin-like
protease cleavage sequence

<400> 1
Arg Lys Lys Arg
1

<210> 2
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: matrix
metalloproteinase (MMP)-recognized cleavage site,
gelatinase favorite substrate sequence

<400> 2

Gly Pro Leu Gly Met Leu Ser Gln
1 5

<210> 3

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:matrix
metalloproteinase (MMP)-recognized cleavage site,
gelatinase favorite substrate sequence

<400> 3

Gly Pro Leu Gly Leu Trp Ala Gln
1 5

<210> 4

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:tissue-type
plasminogen activator (t-PA) and urokinase-type
(u-PA) recognized cleavage site, physiological
substrate sequence

<400> 4

Pro Cys Pro Gly Arg Val Val Gly Gly
1 5

<210> 5

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:urokinase-type
plasminogen activator (u-PA)-recognized cleavage
site, favorite sequence

<400> 5

Pro Gly Ser Gly Arg Ser Ala
1 5

<210> 6

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:urokinase-type

plasminogen activator (u-PA)-recognized cleavage
site, favorite sequence

<400> 6

Pro Gly Ser Gly Lys Ser Ala
1 5

<210> 7

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:tissue-type
plasminogen activator (t-PA)-recognized cleavage
site, favorite sequence

<400> 7

Pro Gln Arg Gly Arg Ser Ala
1 5

<210> 8

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:5' primer F

<400> 8

aaaggagaac gtatatga

18

<210> 9

<211> 30

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:phosphorylated
primer R1

<220>

<221> modified_base

<222> (1)

<223> n = phosphorylated t

<400> 9

ngagttcgaa gatttttgtt ttaattctgg

30

<210> 10

<211> 52

<212> DNA

<213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence:mutagenic
 phosphorylated sequence primer H1

<220>
 <221> modified_base
 <222> (1)
 <223> n = phosphorylated g

<400> 10
 ngaccattag gaatgtggag tcaaagtaca agtgctggac ctacggttcc ag 52

<210> 11
 <211> 21
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence:reverse primer
 R2

<400> 11
 acgtttatct cttattaataa t 21

<210> 12
 <211> 52
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence:phosphorylated
 mutagenic primer H2

<220>
 <221> modified_base
 <222> (1)
 <223> n = phosphorylated g

<400> 12
 ngaccattag gattatgggc acaaagtaca agtgctggac ctacggttcc ag 52

<210> 13
 <211> 33
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence:phosphorylated
 reverse primer R1

<220>
 <221> modified_base
 <222> (1)

<223> n = phosphorylated t

<400> 13

nggtgagttc gaagattttt gttttaattc tgg

33

<210> 14

<211> 52

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:mutagenic
phosphorylated primer H1

<220>

<221> modified_base

<222> (1)

<223> n = phosphorylated t

<400> 14

ngtccaggaa gagtagttgg aggaagtaca agtgctggac ctacggttcc ag

52

<210> 15

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:encoded by
mutagenic phosphorylated primer H1

<400> 15

Cys Pro Gly Arg Val Val Gly Gly

1

5

<210> 16

<211> 46

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:phosphorylated
mutagenic primer H2

<220>

<221> modified_base

<222> (1)

<223> n = phosphorylated g

<400> 16

ngaagtggaa gatcagcaag tacaagtgct ggacctacgg ttccag

46

<210> 17

<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:encoded by
phosphorylated mutagenic primer H2

<400> 17
Gly Ser Gly Arg Ser Ala
1 5

<210> 18
<211> 46
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:phosphorylated
mutagenic primer H3

<220>
<221> modified_base
<222> (1)
<223> n = phosphorylated g

<400> 18
ngaagtggaa aatcagcaag tacaagtgct ggacctacgg ttccag 46

<210> 19
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:encoded by
phosphorylated mutagenic primer H3

<400> 19
Gly Ser Gly Lys Ser Ala
1 5

<210> 20
<211> 46
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:phosphorylated
mutagenic primer H4

<220>
<221> modified_base
<222> (1)

<223> n = phosphorylated c

<400> 20

nagagaggaa gatcagcaag tacaagtgct ggacctacgg ttccag

46

<210> 21

<211> 6

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:encoded by
phosphorylated mutagenic primer H4

<400> 21

Gln Arg Gly Arg Ser Ala

1 5

<210> 22

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:consensus
sequence minimized best substrate for u-PA

<400> 22

Ser Gly Arg Ser Ala

1 5

<210> 23

<211> 14

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:PA sequence at
"furin loop"

<400> 23

Asn Ser Arg Lys Lys Arg Ser Thr Ser Ala Gly Pro Thr Val

1 5 10

<210> 24

<211> 19

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:PA-U1 sequence
at "furin loop"

<400> 24

Asn Ser Pro Cys Pro Gly Arg Val Val Gly Gly Ser Thr Ser Ala Gly
1 5 10 15

Pro Thr Val

<210> 25

<211> 17

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:PA-U2 sequence
at "furin loop"

<400> 25

Asn Ser Pro Gly Ser Gly Arg Ser Ala Ser Thr Ser Ala Gly Pro Thr
1 5 10 15

Val

<210> 26

<211> 17

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:PA-U3 sequence
at "furin loop"

<400> 26

Asn Ser Pro Gly Ser Gly Lys Ser Ala Ser Thr Ser Ala Gly Pro Thr
1 5 10 15

Val

<210> 27

<211> 17

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:PA-U4 sequence
at "furin loop"

<400> 27

Asn Ser Pro Gln Arg Gly Arg Ser Ala Ser Thr Ser Ala Gly Pro Thr
1 5 10 15

Val

<210> 28

<211> 13

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:PA-U7 sequence
at "furin loop"

<400> 28

Asn Ser Pro Gly Gly Ser Thr Ser Ala Gly Pro Thr Val

1

5

10